

 <b>CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY</b> <b>AIR RESOURCES BOARD</b>	<b>Sisu Diesel Inc.</b>	<b>EXECUTIVE ORDER U-R-050-0005</b> New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2005	5SIDL08.4H4A	8.4	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module and Smoke Puff Limiter			Tractor	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NO<sub>x</sub>), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO<sub>x</sub>), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NO <sub>x</sub>	NMHC+NO <sub>x</sub>	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
		CERT	--	--	5.7	0.8	0.13	14	5	44

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

**This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.**

Executed at El Monte, California on this 22<sup>ND</sup> day of March 2005.



Allen Lyons, Chief  
Mobile Source Operations Division

# Engine Model Summary Form

Manufacturer: **Sisu Diesel Inc.**  
 Engine category: **Nonroad CI**  
 EPA Engine Family: **5SIDL08.4H4A**  
 Mfr Family Name: **84 ETA**  
 Process Code: **New Submission**

U-R-050-0005

1.Engine Code	2.Engine Model	3.BHP @RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr) @peak torque	9.Emission Control Device Per SAE J1930
84.407	84.266 ETA	279@2200	145	106.3	1023@1500	187	93.5	DPIC, ECM SPC
84.401	84.268 ETA	269@2000	151	100.7	1000@1500	180	90.0	ECM
84.404	84.285 ETA	296@2200	151	110.7	923@1500	169	84.5	ECM
84.406	84.290 ETA	279@2200	142	104.1	892@1500	162	81.0	ECM
84.405	84.289 ETA	268@2200	137	100.5	846@1500	154	77.0	ECM
84.402	84.283 ETA	296@2200	159	116.6	1000@1400	180	84.0	ECM
84.403	84.284 ETA	256@2000	139	101.9	923@1400	168	78.4	ECM
84.400	84.271 ETA	276@2200	140	102.7	826@1500	152	76.0	ECM
84.410	84.272 ETA	241@2200	123	90.6	746@1500	139	69.8	ECM
84.411	84.329 ETA	292@2200	150	110.0	915@1500	167	83.5	ECM